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ABSTRACT

Three general approaches are available to help discipline the use of qualitative methods in educational research without sacrificing subjective understanding, according to this paper. The most private, least confirmable, yet richest approach is the intuitive, which depends on the researcher's thorough immersion in the field setting and contemplation of the situation. Procedural approaches tend to restrict the effects of individual judgment--in their ideal state they involve the establishment of research procedures that are followed through in their entirety before analysis of the results is attempted. Data display techniques, triangulation, the use of guidelines for induction, and quantitative techniques are among the procedures that can be used when dealing with qualitative data. The third approach, the intersubjective, requires interaction among researchers or between researchers and setting participants for the development of shared understanding and the verification of findings. The characteristics, strengths, and shortcomings of all three approaches are considered in this report, and studies utilizing the different methods are cited as examples. Noting that the three approaches usually appear in some combination, the authors conclude with a brief discussion of the ramifications of some of the combinations possible. (Author/PGD)

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APPROACHES TO QUALITATIVE DATA ANALYSIS: INTUITIVE, PROCEDURAL, AND INTERSUBJECTIVE

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APPROACHES TO QUALITATIVE DATA ANALYSIS: INTUITIVE, PROCEDURAL, AND INTERSUBJECTIVE[1]

In the last decade, qualitative methods have become an accepted tool in educational research. Rist (1977) has described the movement from disdain to detente between advocates of quantitative and qualitative approaches, and Smith and Louis (forthcoming) provide documentation of several large-scale projects that combine both in studying a single problem. In a recent overview of disciplines of inquiry used in education, Shulman (1981) has helped identify conditions under which the use of qualitative methods is appropriate. Finally, the creation of the Council on Anthropology of Education and of the Anthropology of Education Quarterly have helped institutionalize qualitative methods within the educational establishment.

Perhaps the major stumbling block to further use of qualitative methods is the underdevelopment of data analysis techniques. After a careful review of a number of the better textbooks on qualitative methods that were available in the mid-seventies, Sieber (as cited in Miles, 1979) concluded that most devoted less than 10 percent of their content to issues of analysis. The analysis of qualitative data creates a special dilemma because one of its principal advantages potentially conflicts with a major tenet of scientific research. The advantage is that the researcher becomes

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a primary research "instrument." Then his or her subjective understanding can be fully utilized as a source of data, as a means to generate new hypotheses, and as a way to help the reader develop a fuller appreciation of the phenomenon of interest (Eisner, 1979; Sanday, 1979; Stake, 1981a). However, this potential for understanding must be reconciled with the need for verification. In other words, qualitative researchers must still conduct disciplined inquiry that can withstand external scrutiny. Subjective understanding must be minimally influenced by such factors as the researcher's biases, under- or over-attention to various aspects of the studied setting, and selective memory (Dawson, 1980). Miles (1979: p. 590) summarizes the dilemma by asking, "How can we be sure that an 'earthy,' 'undeniable,' serendipitous' finding is not, in fact, wrong?"

A variety of analysis techniques are available to help discipline qualitative inquiry without sacrificing subjective understanding. In this paper we suggest that there are three general approaches: intuitive, procedural, and intersubjective. In actuality, these approaches are generally used in combination because each has distinct strengths and weaknesses and so contributes differently to the research process. After discussing and providing examples of techniques within each approach, our final section discusses reasons for combining the techniques.

Intuition

Individual intuition is the richest and primary source of subjective understanding in qualitative research. However, how intuition is used is difficult to describe and understand. The quantitative researcher typically becomes very familiar with the research phenomenon, including the

actual field setting, notes and memories of interviews and observations of events, and artifacts. This knowledge is compared to prior experiences, theories, and formulations of problems in a process that is often subliminal. Through immersion and contemplation, findings emerge. This process is often marked by numerous interim memoranda through which the researcher records and refines observations.

A major problem with the intuitive approach is that intuition is such a private process that it is difficult to convey the methodology to a reader and allow it to be subjected to external scrutiny. The reader knows little about how the researcher arrived at the conclusions or how firmly they are grounded. Hence, research reports in which intuition is used alone sometimes lack credibility. Another, and perhaps more serious, problem is that the findings may not have undergone the sorts of confirmatory checks that are common in procedural and intersubjective approaches. For this reason, individual intuition should almost always be combined with other, more explicit and deliberately confirmatory, approaches.

There are, however, several intuitive techniques that can be used to improve the validity and credibility of data. One especially effective strategy is for the researcher to be constantly aware of the many threats to validity and to design the research so as to avoid or minimize them. Threats to validity include:

> Limited exposure to phenomena. Sometimes reserchers and informants have partial access to settings--e.g., little access to interactions with clients or among administrators. The exposure may be brief or unrepresentative. Spatial location may cause misinterpretation. An informant may rely on second- or third-hand reports rather than direct observations (Lofland, 1971).

Selective or biased perceptions or memories. People cannot deal with all information to which they are exposed; instead, they tend to select that which is familiar or interesting and to screen out other information (Sadler, 1981; Trankel, 1972). Fieldworkers observe some aspects of phenomena more completely than others. People sometimes give undue weight to first impressions, have difficulty dealing with conflicting or missing information (Sadler, 1982), or have limited access to their thoughts and behaviors--e.g., are unaware of whether or how a particular stimulus influenced a response (Reichardt, 1981). Informants may report on events that they remember poorly (Dean & Whyte, 1969). Researchers' memories are especially likely to be faulty because of information overload at the beginning of fieldwork or because they do not record notes soon enough.

Interpretation of observations. Researchers and informants may be unknowingly influenced by their biases. Researchers may over-report the views of participants who share their biases and neglect the views of others (Wolcott, 1977). An observer's understanding of the context of an event will infuence his or her interpretation of it. Some setting members are more able to put information in context and interpret it usefully than others.

Intuitive analysis can also become more disciplined when the researcher generates predictions and hypotheses from interpretations of events, checks them against existing field notes, and perhaps collects additional data. According to Campbell (1975: 181-182):

> In a case study done by an alert social scientist who has thorough local acquaintance, the theory he uses to explain the focal difference also generates predictions or expectations on dozens of other aspects of the culture, and he does not retain the theory unless most of these are confirmed. In some sense, he has tested the theory with degrees of freedom coming from the multiple implications of any one theory. The process is a kind of pattern-matching in which there are many aspects of the pattern demanded by theory that are available for matching with his observations . . . .

This pattern matching is an important source of rigor and verification in case study analysis. Variations on this theme have been proposed recently by Miles (1979) who suggests hypothesizing conditions that would exist if an interpretaion were true and looking for those and by Yin (1981a) who advocates identifying conditions that would not be true and looking for those. Researchers do in fact reject interpretations that do not fit

enough of the observed facts and use such approaches to test and elaborate theories.

While pattern matching can add rigor to intuition, it may be more difficult to do than Campbell's description suggests. In analyzing the idea in light of his own field work, Rosenblatt (1981) suggests a number of ways for making pattern matching more effective and also discusses some limits to its utility. For instance, effective pattern matching seems to require prespecification of the conceptual issues and theories of interest, withdrawal from the field to generate alternative deductions from the theory, and further data collection intended to confirm or disconfirm those deductions. Rosenblatt finds post hoc efforts to use qualitative data to elaborate or disconfirm a theory especially dubious because of possible distortions of memory and the inability to actively seek out disconfirming evidence.

Even if suggestions such as these are followed, the results of intuitive analysis remain suspect when the process is not made public. Campbell's (1975) belief that qualitative researchers do disconfirm theory is based on his observation of eminent field workers developing and rejecting hypotheses. There are a number of fine examples of case studies (e.g., Cusick, 1973; Peshkin, 1978; Wolcott, 1973) and comparative studies (Metz, 1978; Clark, 1970) in education that rely heavily on intuition, but few if any describe how they formulated their final interpretive framework and the elements that were rejected along the way. Currently, given current norms of the field, such accounts seem to be more appropriate for a piece like Sociologist at Work (Hammond, 1967) than a report of findings; and in any

case, they would be exceedingly bulky. Still, ways need to be found to make this process of generation and rejection of explanations more public.

Procedures

Procedures are essentially rule-bound. In the extreme case, the researcher withholds belief and follows a procedure to its logical end before accepting or rejecting a conclusion. In practice, however, procedures vary in the extent to which they allow judgment to intervene as they are being carried out. A variety of procedures exist to help discipline qualitative inquiry, including data display techniques, triangulation, guidelines for induction, and quantitative techniques.

In a study of educational change processes, Huberman and Miles (1982) are currently developing a set of techniques for data display. One of these is a causal network which looks at first like the path analysis charts sometimes used in quantitative analyses. However, the boxes in the chart symbolize events rather than variables. Thus, they provide a means to display important events and show how they interlock. Another technique is a chart which displays reactions and motivations of key actors or characteristics of a series of similar events. Such networks and charts can be useful in a number of ways. First, they can promote completeness by helping the researcher remember events or conditions that might otherwise be overlooked; second, they also suggest new interpretations and causal connections; third, the reader's understanding of events or conditions can be improved; finally, they facilitate comparison and the identification of similarities and differences across cases. However, data display techniques constitute weak confirmatory evidence for two reasons. First, they display data rather than systematically accumulating it for analysis;

it for analysis; second, it is not clear what goes into displays and what does not. On the other hand, they can promote intersubjective confirmation by giving research subjects easily understood stimuli to which they can respond.

A second procedure is triangulation, the search for convergence across methodologies (Webb et al., 1966). The assumption behind this approach is that different methodologies have compensatory strengths and weaknesses. Where several methodologies lead to the same conclusion, the researcher's confidence in that conclusion is increased substantially. While triangulation is much discussed as a technique for adding validity to qualitative research, it must be treated more as a guideline than a firm set of procedures for several reasons. First, it is difficult to know when two methods in fact present confirmatory evidence. Second, when the evidence from different methods conflicts, it is difficult to know which method, if any, is more correct. That is, it is hard to assess the relative validity of data from different sources. Of course, these same problems often occur in "harder," quantitative studies as well (Cronbach, 1980). On the other hand, seemingly contradictory evidence generated from different methods can all be correct, but represent different perspectives on or aspects of phenomena. Such situations often generate discovery and new understanding. For instance, Jick (1979) describes a situation where survey and observational data presented seemingly contradictory evidence about who was most distressed by an impending plan merger. Further interviewing led to a reinterpretation of the observational data. The observed activity that had been taken as a sign of distress--checking the archives for information on

similar events in the past--was found to actually be a stress-reducing tactic. Thus, a seeming contradiction led to the discovery of a new coping mechanism.

A third category of procedures is guidelines for induction which are procedures geared more to generating understanding than to increasing validity (although, if carefully followed, they can do both). Perhaps the best known of these is Glaser and Strauss' (1967) constant comparative method. As described by its inventors, this method has four parts.

- Comparing incidents applicable to a category. The research compares the new incident to already coded incidents while the coding is in process in order to identify relevant dimensions of variation in the category. As new dimensions become apparent, they are recorded in memos.

- Integrating categories and their properties. As coding continues the unit coded changes from the incident to the property or dimension. This process helps identify the most important explanatory and descriptive categories and develop more abstract categories into which more concrete categories are placed.

- Delimiting the theory. Through further review of field notes, coding schemes, and memos, the researcher creates a smaller set of more general concepts. This step increases both the parsimony and generalizability of the developing theory.

- Writing the theory. With a well organized data set, memo file, and theory, the researcher can quickly write up the results.

This method is inherently a multi-case approach; Glaser and Strauss' examples refer to individual variables--e.g., the experience of dying--rather than organizational, classroom or group phenomena. As a result, they have been able to carry out studies using the methodology with multiple groups within a single setting, such as a hospital, although they recommend using multiple settings--especially for the purpose of delimiting theory.

Other researchers have used guidelines for developing understanding that are geared more explicitly to comparison of more complex cases like schools, technical assistance agencies, or innovative programs (Greene and David, 1981; Yin, 1981b). Yin's approach works out from a single case. The researcher develops explanations for outcomes from a single case and applies it to subsequent cases, in turn modifying it to fit the specifics of each situation until the final explanation generalizes across all cases. The art of the matter is knowing the acceptable limits of modification of the original explanation.

This approach has yielded mixed results. Yin and Gwaltney (1981) used it successfully to understand how technical assistance networks contribute to knowledge use in schools. However, Crain (1968) reports that explanations generated separately from eight case studies of northern urban school desegregation could not be applied usefully across the set. Instead, he was forced to turn to quantitative techniques.

A fourth set of procedures is more quantitative and begins with the codification of a series of data. Judgment plays a role primarily at this stage rather than throughout, as in the techniques discussed previously. However, it is necessary to restrain judgment by ensuring that coding schemes are applied following the classic canons of reliability and validity--in particular that the scheme is employed in the same way with each case. One tends to think of these techniques primarily as means for verification, but they can also be used to generate understanding as Wolcott (1973) learned when he collected and coded time-and-motion data on the daily life of a principal.

What gets coded in these approaches varies remarkably. Wolcott (1973) and Bossert (1979) coded activities--in one case of a principal and in the other of students and teachers in classrooms--while observing events in the field. Firestone (1980) conducted intensive, semi-structured interviews with a random sample of teachers and all administrators in a school district and coded their responses for opinions or beliefs about events. Becker and Geer (1960) developed a complex system to code both activities and statements recorded in field notes with regard to their content, the setting in which they took place, and whether they were voluntary or elicited in response to a question from the researcher. In multiple-case studies, whole cases can be coded. Often, this is done in a post hoc fashion as a form of secondary analysis by researchers who collect reports of a large number of cases (Dunn & Swierczek, 1977; Yin and Heald, 1975). However, it can be done as a form of primary analysis. Firestone and Corbett (1981) used recollections of direct experience and raw field notes to code change projects with regard to outcomes, processes, support from different levels of the district hierarchy, and overall technical assistance provided.

Coded data can be used in a number of ways. For instance, Wolcott (1973) simply presents distributions of activities for his single principal, or so it seems. In fact, he is making an implicit comparison (Rosenblatt, 1981) with a normative theory of educational leadership which suggests that principals should spend a great deal of time working with teachers on educational issues. His data become interesting because he shows that such involvement rarely happens. Sproull (1981) extends this approach by presenting similar data for five directors of educational

programs. Here the same implicit comparison with a normative theory is made, but its generalizability is enhanced because she can show the same pattern across a number of people with very different job descriptions and work settings.

Coded data are also used for cross tabulation and with statistical tests. Becker and Geer (1961) use cross tabulation to verify the existence of a "perspective" or world view among a group in a setting. Coded data are displayed to show the relative frequency of (1) statements and activities, (2) in private and public situations, (3) volunteered or responses to questions. Rules of thumb for reading the tables suggest that where more statements are volunteered or made in a group context and where there is a balance of statements to activities, the likelihood that a perspective actually exists is increased.

It is somewhat more typical to use coded data to show relationships between variables. Firestone and Corbett (1981) use bivariate scattergrams with data from 11 projects to indicate relationships between change outcomes and a variety of school characteristics and change agent activities. With much larger samples, it is possible to use statistical measures of association and tests for significant difference. These are usually done by secondary analysts, however (Dunn and Swierczek, 1977; Yin and Heald, 1975); and they are fairly rare in education.[2]

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[2] Such examples raise a question as to when a study may properly be considered qualitative as opposed to quantitative. This question is becoming especially difficult as more and more ways are being developed to combine techniques. In our view, a study is primarily qualitative when the senior investigators have had substantial direct immersion in the field and use that immersion to drive their own intuition which is the major source of the report. Then, the quantitative techniques we describe would support intuition. However, the Yin and Heald example and others indicate that this relationship can be reversed and quantitative techniques can drive the analysis of what was originally qualitative data.

Intersubjective Approaches

Intersubjective approaches require interaction among researchers or between researchers and setting participants about the research findings. Depending on the developmental stage of the research effort, these approaches can both enhance understanding and help verify findings. In fact both often take place simultaneoulsy through the give and take of discussion and joint work. For instance, Stake and Easley (1978) used a team of researchers to examine the status of science education in ten school districts. Case studies were conducted in a staggered schedule so that later studies could inform and confirm findings from earlier ones. In addition, a research team consisting of the staff at the central location and some of the case study researchers met to discuss research findings. These discussions focused on both within-site and cross-site issues. The data base used in the discussions included impressions from site visits and field work, records of interviews and other field experiences, and completed case studies. During the meetings, the staff refined a list of issues and problems that had been identified when the study proposal was written (Stake, 1981b), developed a shared understanding of those issues, and identified topics for subsequent data collection. Through this process, the research team was able to develop and substantiate a multisite analysis of science education that was presented in the project's final report.

Groups of researchers may develop shared understanding through seminars which focus on specific analytic issues and offer an opportunity for comparison of viewpoints (Adams, 1981) or through writing and critiquing issue memoranda as described by Glaser and Strauss (1967). Understanding may also come through more prosaic (and painful) activities as well. For

instance, Miles (1979) describes how a group reached some level of common understanding through the joint use of a coding scheme. In the process the number of codes first doubled, then the original scheme was dropped in favor of a simpler list of 26 major themes. While even that list did not have the utility hoped for as a data reduction and retrieval device, Miles (p. 594) notes that there was "a genuine residue of the extended efforts at coding. The arguments and clarifications they required were successful in generating a common language of concepts which found their way into the general framework, and guided further data analysis in less-formal modes."

Intersubjective appraoches are usually intended to lead to a final joint product that all can agree repesents a valid description and analysis of a situation. Herriott and Gross (1979) deviate from this approach in an original manner by presenting multiple independent syntheses of data from five cases. They gave synthesizers five detailed case studies written to a common format and asked each to review the cases and draw implications for a particular user group--school administrators, federal program designers, federal program implementors, and trainers of school administrators among others. Finally, the editors analyzed the total opus drawing on both the original case studies and the first set of syntheses. The report of this effort presents the case studies, the several syntheses, and the overall analysis. The reader working across the report can generate understanding and verify it personnally by identifying commonalities in the various syntheses and analyses and drawing his or her own conclusions from the original "data."

Including site participants in the data analysis process is becoming more common. In particular, sharing project reports with subjects is a

growing practice in qualitative research. Interpretations are considered much more likely to be valid if they have been confirmed by setting participants. Yin and Gwaltney (1981) specifically designed their site visits in two waves so that they could test their interpretations with research subjects. The first visit was to learn about the site. A major agenda item for the second visit was to present site staff with a draft case study and obtain a critique that was used to correct facts and revise interpretations.

Our own experience suggests that this approach may set limits on the data that can be reported. As Becker (1964) points out, research subjects are likely to ask for changes that protect their images of themselves and their schools, organizations, or communities. Moreover, when research reports are submitted to funding agencies, survival and growth as well as self-esteem may be at issue. We are studying how work groups in our own organization provide technical assistance to schools, and our reports present descriptions of the work groups as well as the schools. All reports are presented to the work groups before they are released to the public--including the major funding agency for our organization. While these reviews have definitely provided new data on events in schools, we have also been criticized for deviating from the work groups' own interpretations or for presenting interpretations that could be viewed as negative evaluations of the work groups' efforts. After several review meetings, it became apparent that certain findings, whether true or not, could not be presented. The extent of such defensiveness probably varies considerably depending on the setting in question, the sensitivity of the problem to setting participants, and modes of data feedback. For instance, Miles

(personal communication) finds that the use of causal networks and other graphic displays often tends to reduce the defensiveness of responses.

While it is typical to limit the site participants' role in analysis to that of reviewer and critic, they have had more extensive involvement. Alkin, Daillak, and White (1979) include written responses by key informants as appendices to their case studies of evaluation use in school districts. In the extreme case, the researcher-subject distinction breaks down entirely as the site participant becomes a full member of the study team. This occurs in the work of Smith and Geoffrey (1968) where a university professor and a teacher combined as nonparticipant and participant observers and collaborated on an ethnography of an urban classroom.

Combining Approaches

An overall consideration of the contribution that the different approaches to data analysis make must start with the central role of intuition which provides both the strength and the weakness of qualitative research. Intuition is the primary source of understanding that comes from qualitative analysis, but because it is a private process, it is subject to bias and difficult to verify. Procedural techniques and intersubjective approaches supplement intuition by providing new material on which intuition can work and by verifying the new understandings that result, but they do so in different ways. Procedures do so by forcing the researcher to consider data that might otherwise be overlooked. Data display techniques provide a way of surfacing data and showing an order to it that may be non-intuitive and that falsifies some interpretations and suggests others. The various guidelines for comparing cases are really ways to put explanations up against futher data and see if they hold. They are more concrete

variants on Campbell's pattern-matching idea. Similarly, quantitative coding is a way of generating new data.

Almost all of the procedures employed in qualitative research are subject to multiple interpretation, not unlike procedures used in quantitative research (Cronbach, 1980). Intersubjective approaches provide a way of "negotiating" these interpretations. They force researchers to confront alternative explanations and often surface new data at the same time. In the process a consensus on a "best possible" interpretation usually emerges. However, there is the possibility that error will result from the group process. For instance, members may become willing to accept any interpretation because they have sunk such an investment into a project or to just get it over; one or two members may possess undue influence and their misperceptions may carry the day. These threats to understanding can be guarded against in part by the late addition of new reviewers. Some of these processes--such as those used by Herriott and Gross (1979)--do not force consensus but demonstrate its presence or absence by allowing for the simultaneous publication of multiple interpretations. In these cases, it is left to the reader to test the strength of consensus and formulate the final synthesis. Because each type of approach contributes to understanding and verification in different ways, the strongest analysis strategies will find ways to combine all three in a single problem.

Bibliography

Adams, K. A. The keen edged feather: Intuitive analysis and reporting of qualitative evaluation data. Paper presented at the annual meeting of the American Educational Research Association, Los Angeles, April 1981.

Alkin, M. C., Daillak, R., & White, P. Using evaluations: Does evaluation make a difference? Beverly Hills, Calif.: Sage Publications, 1979.

Becker, H. S. Problems in the publication of case studies. In A. J. Vidich, J. Bensman, & M. R. Stein (Eds.), Reflections on community studies. New York: Harper & Row, 1964.

Becker, H. S., & Geer, B. Participant observation: The analysis of qualitative field data. In R. N. Adams & J. J. Preiss (Eds.), Human organization research: Field relations and techniques. Homewood, Ill.: Dorsey Press, 1960.

Becker, H. S., Geer, B., Hughes, E. C., & Strauss, A. L. Boys in white: Student culture in medical schools. Chicago: University of Chicago Press, 1961.

Bossert, S. Tasks and social relationships in classrooms. Cambridge, Eng.: Cambridge University Press, 1979.

Campbell, D. T. "Degree of freedom" and the case study. Comparative Political Studies. 1975, 8, 178-193.

Clark, B. R. The distinctive college: Antioch, Reed, and Swarthmore. Chicago: Aldine, 1970.

Crain, R. L. The politics of school desegregation. Chicago: Aldine, 1968.

Cronbach, L. J. Validity on parole: How can we go straight? New Directions for Testing and Measurement, 1980, 5, 99-108.

Cusick, P. A. Inside high school. New York: Holt, 1973.

Dawson, J. A. Validity in qualitative inquiry. Unpublished doctoral dissertation, University of Illinois, 1980.

Dean, J. P., & Whyte, W. F. How do you know if the informant is telling the truth? In G. J. McCall & J. L. Simmons (Eds.), Issues in participant observation: A text and reader. Reading, Mass.: Addison-Wesley, 1969.

Dunn, W. N., & Swierczek, F. N. Planned organizational change: Toward grounded theory. Journal of Applied Behavioral Science, 1977, 13, 155-158.

Eisner, E. W. The use of qualitative forms of evaluation for improving educational practice. Educational Evaluation and Policy Analysis, 1979, 1(6), 11-19.

Firestone, W. A. Great expectations for small schools: The limitations of federal projects. New York: Praeger, 1980.

Firestone, W. A., & Corbett, H. D. Schools vs. linking agents as contributors to the change process. Educational Evaluation and Policy Analysis, 1981, 3(2), 5-18.

Glaser, B. G., & Strauss, A. L. The discovery of grounded theory: Strategies for qualitative research. Chicago: Aldine, 1967.

Greene, D., & David, J. L. A research design for generalizing from multiple case studies. Palo Alto: Bay Area Research Group, 1981.

Hammond, P. E. (Ed.) Sociologists at work. Garden City, N.Y.: Doubleday, 1967.

Herriott, R. E., & Gross, N. The dynamics of planned educational change. Berkeley: McCutchan, 1979.

Huberman, A. M., & Miles, M. B. Data display, meaning and verification in qualitative data analysis. Paper presented at the Annual Meeting of the American Educational Research Association, New York, March 1982.

Jick, T. D. Mixing qualitative and quantitative methods: Triangulation in action. Administrative Science Quarterly, 1979, 24, 602-611.

Lofland, J. Analyzing social settings: A guide to qualitative observation and analysis. Belmont, Calif.: Wadsworth, 1971.

Metz, M. H. Classrooms and corridors: The crisis of authority in desegregated secondary schools. Berkeley: University of California, 1978.

Miles, M. B. Personal communication, November 15, 1981.

Miles, M. B. Qualitative data as an attractive nuisance: The problem of analysis. Administrative Science Quarterly, 1979, 24, 590-601.

Reichardt, C. S. On combining qualitative and quantitative methods in educational evaluation. Paper presented at the Annual Meeting of the American Educational Research Association, Los Angeles, April 1981.

Rist, R. C. On the relations among educational research paradigms: From disdain to detente. Anthropology and Education Quarterly, 1977, 8, 42-49.

Rosenblatt, P. C. Ethnographic case studies. In M. B. Brewer, & B. E. Collins (Eds.), Scientific inquiry and the social sciences. San Francisco: Jossey-Bass, 1981.

Sadler, D. R. Intuitive data processing as a potential source of bias in naturalistic evaluations. Educational Evaluation and Policy Analysis, 1981, 3(4), 25-31.

Sanday, P. R. The ethnographic paradigm(s). Administrative Science Quarterly, 1979, 24, 527-238.

Shulman, L. S. Disciplines of inquiry in education: An overview. Educational Researcher, 1981, 10(6), 5-12.

Smith, L. M., & Geoffrey, W. The complexities of an urban classroom: An analysis toward a general theory of teaching. New York: Holt, Rinehart, and Winston, 1968.

Sproull, L. S. Managing education programs: A micro-behavioral analysis. Human Organization, 1981, 40, 113-122.

Stake, R. E. A needed subjectivity in educational research. Discourse, 1981, 1(2), 1-8. (a)

Stake, R. E. Progressive focusing. Paper delivered at the Annual Meeting of the American Educational Research Association, Los Angeles, April 1981. (b)

Stake, R. E., & Easley, J. A., Jr. Case studies in science education: Overview. Booklet 0. Urbana, Ill.: University of Illinois, Center for Instructional Research and Curriculum Evaluation, 1978.

Trankel, A. Reliability of evidence: Methods for analyzing and assessing witness statements. Stockholm: Beckmans, 1972.

Webb, E. J., Campbell, D. T., Schwartz, R. D., & Sechrest, L. Unobtrusive measures: Nonreactive research in the social sciences. Chicago: Rand McNally, 1966.

Wolcott, H. W. Teachers vs. technocrats: An educational innovation in anthropological perspective. Eugene, Ore.: Center for Educational Policy and Management, University of Oregon, 1977.

Wolcott, H. W. The man in the principal's office: An ethnography. New York: Holt, Rinehart, and Winston, 1973.

Yin, R. K. The case study as a serious research strategy. Knowledge: Creation, Diffusion, Utilization, 1981, 3, 97-114. (a)

Yin, R. K. The case study crisis: Some answers. Administrative Science Quarterly, 1981, 26, 58-65. (b)

Yin, R. K., & Gwalthney, M. K. Organizations collaborating to improve educational practice. Washington, D. C.: Abt Associates, 1981.

Yin, R. K., & Heald, K. A. Using the case survey method to analyze policy studies. Administrative Science Quarterly, 1975, 20, 371-381.